

## ABSTRACT:

A quadrature coupled controlled oscillator comprising a first and a second circuit modules, each of the circuit modules (100 and 100') comprising an astable multivibrator circuit (103), the first circuit module (100) being coupled with the second circuit module (100') and the second circuit module (100') being cross coupled with the first circuit module (100), each of the circuit modules (100 and 100') comprising a first and a second Voltage Controlled Current Source (101) (VCCS).

In each of the circuit modules (100 and 100') each of the VCCS is coupled with a phase shifter (102) for shifting the phase of a current (110) supplied by the VCCS (101) to a resonator (104) comprised in that circuit module.

A communication arrangement (300) for communicating via a bi-directional communication channel (304), comprising an oscillator (303) as claimed in one of the previous claims (QVCO) for generating a periodical signal, a receiving module (301) for generating an output signal from the periodical signal and a receiving signal received from the channel (304), further comprising an emission module (302) for generating an emission signal for emitting to the channel from the periodical signal and an input signal.

Fig. 2